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ABSTRACT

The frequency of a skew clock signal is dithered around

a base frequency, thereby enabling this clock signal to

comply with FCC requirements for electromagnetic emissions within a specified window (e.g., a 1 MHz window).

delay can be introduced such that the clock signals exhibit slightly different frequencies in successive periods. For

DIGITAL SPREAD SPECTRUM CIRCUITRY

Andrew K. Percey

John D. Logue F. Erich Goetting Paul G. Hyland

example, the frequency of a 100 MHz clock signal can be

adjusted to have frequencies of approximately 98, 98.5, 99, 16

99.5, 100, 100.5, 101, 101.5, and 102 MHz during different 17

periods. This configuration is referred to as a spread-8 18

configuration, because eight frequencies are used in addition 19

to the base frequency of 100 MHz. Because the frequencies 20

are spread in 0.\$ MHz increments, only three of the nine 21

frequencies are included in any 1 MHz window. As a result, 22

2/3 of the energy of the clock signal is not included when 23

determining whether the clock signal meets the FCC 24

electromagnetic emission requirements in this test. 25

spreading the frequencies above and below the base frequency 26

in a regular manher, the average frequency of the clock 27

signal becomes equal to the base frequency. Other 28

configurations including, but not limited to, spread-2, 29

spread-4, spread-6, spread-16 and spread-32 configurations, 30

can also be implemented. 31

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